Contents of Volume 28 (2004)

NUMBER 1 JANUARY – FEBRUARY 2004

Editorial 1

An analysis of medical device-related errors: prevalence and possible solutions
J. R. Ward and P. J. Clarkson 2

Utilization of temperature distribution in expiratory speaking flow as a new parameter for speech production analysis
G. F. Gomes, J. V. C. Vargas and E. D. M. Filho 22

Neural network and fuzzy control in FES-assisted locomotion for the hemiplegic
Y.-L. Chen, S.-C. Chen, W.-L. Chen, C.-C. Hsiao, T.-S. Kuo and J.-S. Lai 32

Book Review 39

MHRA Publications 40

News and Product Update 43

Calendar 46

NUMBER 2 MARCH – APRIL 2004

Wavelet based analysis and characterization of the ECG signal
M. J. Burke and M. Nasor 47

Analysis of the ST-segment in terms of principal components: application on multichannel magnetocardiographic recordings
B. G. Schless, H.-P. Müller, M. DeMelis, A. Pasquarelli, S. N. Erné and V. Hombach 56

On lossy transform compression of ECG signals with reference to deformation of their parameter values
Antti Koski, Timo Tossavainen and Martti Juhola 61

A simple device to assess and train motor coordination
J. S. Petrofsky and D. Petrofsky 67

Standing-up robot: as assistive rehabilitative device for training and assessment
R. Kamnik and T. Bajd 74

Technical note

A device to measure *in vivo* forces in human flexor tendons during carpal tunnel operations
E. S. Powell and I. A. Trail 81

MHRA Publications 85

News and Product Update 88

Calendar 91

Contents of Volume 28 (2004)

NUMBER 1 JANUARY – FEBRUARY 2004

Editorial 1

An analysis of medical device-related errors: prevalence and possible solutions
J. R. Ward and P. J. Clarkson 2

Utilization of temperature distribution in expiratory speaking flow as a new parameter for speech production analysis
G. F. Gomes, J. V. C. Vargas and E. D. M. Filho 22

Neural network and fuzzy control in FES-assisted locomotion for the hemiplegic
Y.-L. Chen, S.-C. Chen, W.-L. Chen, C.-C. Hsiao, T.-S. Kuo and J.-S. Lai 32

Book Review 39

MHRA Publications 40

News and Product Update 43

Calendar 46

NUMBER 2 MARCH – APRIL 2004

Wavelet based analysis and characterization of the ECG signal
M. J. Burke and M. Nasor 47

Analysis of the ST-segment in terms of principal components: application on multichannel magnetocardiographic recordings
B. G. Schless, H.-P. Müller, M. DeMelis, A. Pasquarelli, S. N. Erné and V. Hombach 56

On lossy transform compression of ECG signals with reference to deformation of their parameter values
Antti Koski, Timo Tossavainen and Martti Juhola 61

A simple device to assess and train motor coordination
J. S. Petrofsky and D. Petrofsky 67

Standing-up robot: as assistive rehabilitative device for training and assessment
R. Kamnik and T. Bajd 74

Technical note

A device to measure *in vivo* forces in human flexor tendons during carpal tunnel operations
E. S. Powell and I. A. Trail 81

MHRA Publications 85

News and Product Update 88

Calendar 91

NUMBER 3 MAY–JUNE 2004

22nd Southern Biomedical Engineerig Conference and Symposium on Aortic Valve Sparing Surgery, September 26–28, Charlotte, North Carolina, USA

Large-displacement 3D structural analysis of an aortic valve model with nonlinear material properties
A. Ranga, R. Mongrain, R. Mendes Galaz, Y. Biadillah and R. Cartier 95

Commentary on 'Large-displacement 3D structural analysis of an aortic valve model with nonlinear material properties' by A. Ranga *et al.*
M. R. Labrosse 104

Effect of LVAD outflow conduit insertion angle on flow through the native aorta
K. D. May-Newman, B. K. Hillen, C. S. Sironda and W. Dembitsky 105

Developing seamless shaped woven medical products
K. Anderson and A. M. Seyam 110

An artificial compound eye for stereoendoscopy
R. Szema, J. Rastegar and L. Lee 117

Hazards of non coherent light sources as determined by the framework of IEC TR-60825-9
D. M. Clarkson 125

The role of measurement of pulse duration and pulse profile for lasers and intense pulsed light sources
D. M. Clarkson 132

MHRA Publications 137

News and Product Update 139

Calendar 142

NUMBER 4 JULY–AUGUST 2004

The effect of light exercise upon blood flow velocity determined by laser-Doppler flowmetry
N. Sergueef, K. E. Nelson and T. Glonek 143

Analysis of the second heart sound using continuous wavelet transform
S. M. Debbal and F. Bereksi-Reguig 151

An experimental design for quantification of cardiovascular responses to music stimuli in humans
S.-H. Chang, C.-H. Luo and T.-L. Yeh 157

Development of a new mini-invasive tumour hyperthermia probe using high-temperature water vapour
Tian-Hua Yu, Yi-Xin Zhou and Jing Liu 167

Optimization of bi-directional digital filtering for drift suppression in electrocardiogram signals
I. Dotsinsky and T. Stoyanov 178

Book review 181

MHRA Publications 182

News and Product Update 183

Calendar 187

NUMBER 5 SEPTEMBER–OCTOBER 2004

A semiclosed-loop optimal control system for blood glucose level in diabetics
M. S. Ibbini, M. A. Masadeh and M. M. Bani Amer 189

Preparation and characterization of radioactive Co/^{188}Re stents intended for lung cancer treatment using an electrodeposition method
H. Zhang and U. O. Häfeli 197

Three-dimensional reconstruction of human femur using consecutive computer tomography images and simulated implantation system
Y.-H. Kim, J.-K. Kim and K. Choi 205

Magnetically coupled balance platform
J. S. Petrofsky and E. B. Lohman III 211

Effect of electrode impedance in improved buffer amplifier for bioelectric recordings
E. R. Valverde, P. D. Arini, G. C. Bertran, M. O. Biagetti and R. A. Quinteiro 217

Viscoelastic properties of cartilage-subchondral bone complex in osteoarthritis
A. P. Fortis, V. Kostopoulos, E. Panagiotopoulos, S. Tsantzalis and A. Kokkinos 223

Erratum 227

MHRA Publications 228

News and Product Update 230

Calendar 233

NUMBER 6 NOVEMBER–DECEMBER 2004

BAEP dynamic estimation in case of endocochlear pathologies using a time delay correction method
N. Cherrid, A. Näit-Ali and P. Siarry 241

The relation between viable segments and left ventricular ejection fraction improvement
H.-C. Han and S. Lerakis 242

A portable hand-held device for quantifying and standardizing tremor assessment
M. P. Caligiuri and R. M. Tripp 254

Sampling frequency of the RR interval time series for spectral analysis of heart rate variability
C. J. Michel 263

MHRA Publications 273

News and Product Update 275

Calendar 278